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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,126	03/08/2006	Gerd Schmaucks	E-1048	2783

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LUCAS & MERCANTI, LLP
475 PARK AVENUE SOUTH
15TH FLOOR
NEW YORK, NY 10016

EXAMINER

LACLAIR, DARCY D

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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07/21/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@lmiplaw.com

Office Action Summary	Application No. 10/517,126	Applicant(s) SCHMAUCKS, GERD	
	Examiner Darcy D. LaClair	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **5/5/2010**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on **5/5/2010**. In particular, **Claim 4, 5, 6, 7 and 10** has been amended to specify that the resin is an elastomeric resin. This limitation was not present in the claims at the time of the preceding Office Action. Thus, the following action is properly made **FINAL**.

Double Patenting

2. **Claims 4–7 and 9-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-8** of copending **Application No. 11/718,590**.

The rejection is adequately set forth in **paragraphs 9-11** of the office action mailed **4/9/2008**, and **paragraph 5** of the office action mailed **10/15/2008**, **paragraph 2** of the office action mailed **9/23/2009** and **paragraph 2** of the office action mailed **2/8/2010**, and is incorporated here by reference.

With regard to the amendment to the Claims, the copending application requires an engineering plastic (Claim 1) and defines the engineering plastic as acrylonitrile-butadiene-styrene, which is a type of acrylonitrile-butadiene rubber, and

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ethylene vinylacetate copolymer (EVA). (See p. 1 line 14-21) These are elastomeric compounds and this gives the resin an elastomeric property.

Claim Rejections - 35 USC § 103

3. **Claims 4-7, 9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Underwood et al. (US 4,201,060)** in view of **Emmett (1944, Industrial and Engineering Chemistry)**.

The rejection is adequately set forth in **paragraph 5** of the office action mailed **2/8/2010**, and is incorporated here by reference.

4. **Claims 4-7, 9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Černec et al. (WO 01/88055)** in view of **Underwood et al. (US 4,201,060)**

The rejection is adequately set forth in **paragraph 5** of the office action mailed **2/8/2010**, and is incorporated here by reference.

Response to Arguments

5. Applicant's arguments filed **5/5/2010** have been fully considered. Specifically, applicant argues

(A) Applicants request that the obviousness type double patenting rejection over serial no. **11/718,590** be held in abeyance until the case is ready for allowance.

(B) Claims 4-7, 9 and 10 were rejected for reciting resin or elastomeric resin without sufficient antecedent basis. Applicants disagree as the preamble to claim 4

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recites a method for production of a highly filled elastomeric compound, and the instances of the term “resin” has been amended to “elastomeric resin.”

(C) The invention solves a processability problem by adding 1 to 400% by weight of microsilica to highly loaded elastomeric compounds such that an unexpectedly reduced viscosity is obtained and processing is possible. Underwood does not teach or suggest the claimed methods for production of a highly filled elastomeric compound, by employing microsilica, as a further component, in addition to a conventional filler. Underwood does teach that amorphous silica can be used with one or more fillers, but does not teach or suggest how much of the other fillers can be present, and there is certainly no teaching that the plasticized PVC of Underwood be “highly filled” with conventional filler. The high filler loading increases the viscosity to a level where processability is impaired; thus the addition of microsilica as a processing agent solves this problem. This use as a processing agent is not taught or suggested. Underwood teaches microsilica as a filler replacing conventional filler, which is evident from all examples of Underwood, And a close inspection shows no connection to adding microsilica to improve (reduce) the viscosity. Emmet is cited to teach the addition of a filler other than microsilica, but does not remedy the deficiencies of Underwood. It is submitted that nowhere does Underwood or Emmett teach or suggest the method of Claim 4, and the results provided by the claimed method, reducing the viscosity of a highly filled elastomer resin compound, are unexpected.

(D) Cernac in view of Underwood does not teach an elastomeric compound. The mixture taught by Cernac is prepared as a liquid slurry with a solid content of only 4%.

This is conveyed by a sieve to form a layer that is dewatered. An elastomer with a vulcanization paste is used as a binder; the method of Claim 4 which requires forming a highly filled elastomeric compound and adding microsilica is not present. Further, Underwood does not remedy any of the deficiencies of Cernac as discussed above.

6. **With respect to argument (A)**, Applicant is advised that the provisional obviousness-type double patenting rejection of record over application no. **11/718,590** is being maintained until properly overcome.

With respect to argument (B), applicant's arguments have been considered and the rejection has been withdrawn ***in light of applicant's amendment*** reciting "elastomeric resin" in the place of "resin."

With respect to argument (C), applicant's arguments have been considered but are ***not persuasive***. First, applicant has discussed the method extensively with respect to a reduction in viscosity as the unexpected result of adding the microsilica to a composition. It is noted that nowhere in the claims is the property of "viscosity" discussed. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reduction in viscosity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Rather, the claims recite the microsilica as a modifier to improve processability. This is the same features discussed by Underwood, specifically, improvement of

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processing characteristics and improved processability, as well as improved rheological properties. However, even were applicant to add this feature to the recited claim limitations, it is the examiner's position that processability is based on features of the composition which would be well known to one of ordinary skill in the art, such as the viscosity which is a direct feature of how readily mixed, blended, extruded, molded or otherwise manipulated (all encompassed by "processed") a composition is. Viscosity is a rheological (flow) property and Underwood specifically references this feature. Thus it is the examiner's position that improved processability would bring a reduction or improvement in viscosity immediately to mind for one of ordinary skill in the art.

With respect to the content of the cited references, Underwood teaches preparation of a resin composition having particulate amorphous silica as a filler in loadings as high as 250 parts per hundred parts of resin (abs) included by being thoroughly mixed in with the resin. (col 5 line 24-30) Underwood teaches that the presence of amorphous silica can improve the rheological properties with a lower heat input, which would significantly enhance the processability. (col 3 line 7-11) In addition, Underwood explains that the filler is of importance as it can affect properties such as the processing characteristics, (col 1 line 64) and indicates that better processability was experienced when using the amorphous silica. (col 5 line 45-48)

The composition of Underwood extends to mixtures of thermoplastic resins with elastomers, which are an "internal blend" of elastomeric domains and thermoplastic domain. (See col 2 line 40-47) Underwood also teaches the use of the silica in thermoplastic elastomer resins which are rubbery material (see col 14 line 3-15), which

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contain EPDM, as well as in styrene-butadiene-styrene (SBS) elastomers (or SBR).

(See col 14 line 67-68, col 15) The composition of Underwood includes PVC (polyvinyl chloride) with an elastomer as one of the specific embodiments. (See col 12 line 45-49)

Emmett teaches mixtures of plasticized polyvinyl chloride resins with butadiene-

acrylonitrile rubbers. (See Title, par 1) Underwood teaches that a large amount of filler can also be used when this microsilica is employed (see col 3 line 12-15) and that

carbon black can be used to obtain a dark colored PVC (see col 5, line 8-11) or the

silica is used in admixture with one or more other fillers to achieve a balance of

characteristics in the composition. (See col 13 line 39-42) Although Underwood does

not specifically teach the content of the non-microsilica (or conventional) filler, the use of

such a filler is clearly presented by Underwood. Emmett teaches semi-reinforcing black

in 80 and 100 parts by weight (see Table 1, OR-15, OR-25) in the rubber copolymers. It

would be obvious to one of ordinary skill in the art to use the carbon black in this content

in the composition of Underwood in view of Emmett.

With respect to argument (D), applicant's arguments have been considered but are **not persuasive**. The instant claims do not discuss or limit the compounds present in the composition, but simply that it is highly filled. Thus that the mixture of Cernac is prepared as a liquid slurry with a small solid content in the slurry form is not relevant, as the method comprises a highly filled elastomeric resin, but does not preclude a mixing solvent. As determined by the specification, the claims, and previous prosecution history, this is dictated by a conventional filler content of 15% to about 500% by weight of the elastomeric resin. Černec discloses a sealing material having less than 60%

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weight of graphite powder, and 30% weight of mineral fillers including microsilica having a BET surface area of 15 to 25 m²/g and a particle size under 5 μm, and 12% by weight of elastomeric binders. (See abstract) Based on 100 parts of elastomeric binder, this is up to 500 parts by weight of the graphite powder, and up to 250 parts by weight of the microsilica. The elastomeric binders include nitrile butadiene rubber (NBR), styrene butadiene rubber (SBR), ethylene propylene rubber (EPR), ethylene propylene diene rubber (EPDR), acrylate rubber (ACM), *inter alia*. (See p. 4, par 2) Furthermore, Černec teaches that the microsilica in combination with the other fillers makes it possible to achieve a good packing density of the particles and confers good sealability of the sealing material. (See p. 4 par 1) This is consistent with adding microsilica to improve processability and the presence of the microsilica means that the material can be easily processed into a sealing space. This is directly related to the presence of the microsilica improving the processability, as required by the claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Milton I. Cano/
Supervisory Patent Examiner, Art Unit 1796

Darcy D. LaClair
Examiner
Art Unit 1796

/DDL/

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